JULY 1994

A Market Forecast and Analysis of Professional Services and Systems Operations Sectors

INPUT®

Atrium at Glenpointe, 400 Frank W. Burr Boulevard, Teaneck, NJ 07666 201-801-0050

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For

U.S. Marketing & Services
Market Assessment Department
International Business Machines
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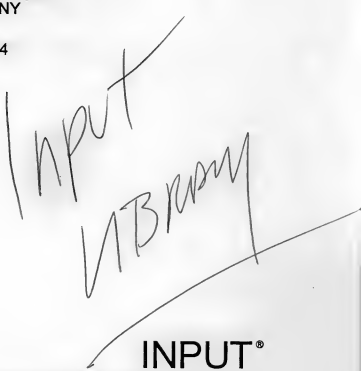

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INPUT exercises its best efforts in preparation of the information provided in this report and believes the information contained herein to be accurate. However, INPUT shall have no liability for any loss or expense that may result from incompleteness or inaccuracy of the information provided.

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Introduction

A Objectives

IBM has been a long-time subscriber to INPUT's Market Analysis Program, which sizes, analyzes, and forecasts the U.S. information services market. The Market Analysis Program analyzes the market in terms of sector (e.g., professional services, software products, processing, etc.) as well as by market (e.g., insurance).

In addition to this type of information delivery, IBM needs to bring together in one place all INPUT's information related to the professional services, systems integration, and systems operation market. For this purpose IBM has requested that INPUT regroup and reanalyze previously-assembled data and analysis to focus specifically on these service markets. The reasons for doing so include:

- To produce a finer granularity in market sizing and forecasting, especially for professional service sector by vertical market and leading vendors and associated market share by vertical market.
- To apply IBM's economic assumptions.
- To further define the Systems Operations markets into the component parts of hardware (new and previously purchased), software, maintenance, personnel, and network costs.

The reanalysis of information contained in this report provides IBM a single-point information source that unites market sizing, forecasting, competitive analysis, and sector trend analyses.

B
Scope

Professional services (including the professional services component of systems integration) and systems operations are segmented for the purposes of this report into 15 industry groups.

Within each industry, the professional services data is allocated into professional services "sub-sectors":

- Consulting
- Software development
- Education and training
- Systems operations

Systems integration data is allocated into the "sub-sectors":

- Software development
- Design/integration
- Project management/consulting
- Education/training
- Operations/maintenance

INPUT's Systems Integration forecasts include the Information Technology portions of the Federal Government budgets for Defense and Civil agencies. The application of most "off-the-shelf" technology is included. Milspec Systems and commercial systems that are embedded in weapons platforms are not included in INPUT's market forecasts. In addition, INPUT does not attempt to acquire and forecast the information technology and services used in classified systems.

Systems operations data has been allocated into the "sub-sectors":

- Platform operations
- Applications operations
- Network operations
- Desktop operations

Systems operations was redefined by INPUT in late 1992 into the sub-sectors of platform, applications, network, and desktop-based operations. These definitions better described the type of service that was being performed as opposed to the operations oriented services definition that had been used in the past. Platform systems operations is defined as the day to day operation of pre-existing application software programs. Applications based systems operations includes the maintenance and updating of the applications being run by the vendor.

The following information is supplied for professional services, systems integration and systems operations:

- Market size by industry
- Vendors active in a market and their market share. Note: Generally, specific market share information is shown for five vendors or for at least half the applicable market (whichever is larger). INPUT has strived in the last two years to increase the market share report for IBM.

Summary form information is supplied by the sub-sectors of professional services/systems integration and systems operations by vendor.

The basic source for information has been INPUT's 1992/1993 Market Analysis Program reports, data bases, definitions and underlying analyses. Analysis and secondary research has been performed as required (for example, to identify and spread professional services revenues of particular vendors).

Vendor data given is for 1993 and is calendarized as necessary. In some cases, vendor data, especially for industry allocations, is preliminary and/or estimated.

C
Methodology

This report is a combination of INPUT's IS forecasts, quantitative analysis, factual information, and industry knowledge.

1. Introduction

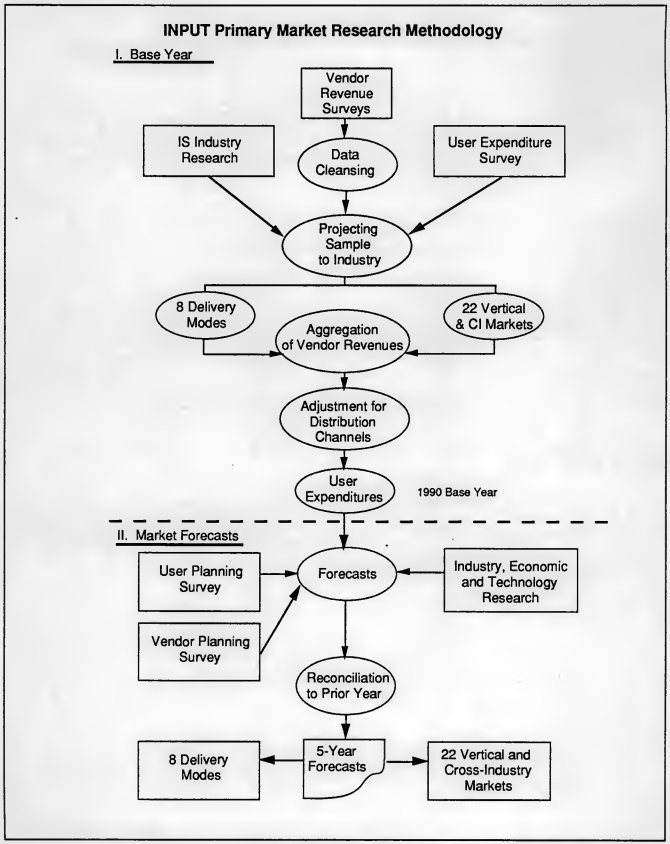
During 1992 and 1993 INPUT conducted in-depth interviews with 600 information services vendors, including nearly all of the largest 250 firms, with revenues of $20 million or more. These surveys and estimates provided the initial vendor revenue estimates for 1993. Total base year

1993 actual or forecast revenues are then summed into six sectors and 15 vertical and seven cross-industry segments for closer analysis and five-year projections. Only U.S revenues and professional services non-captive revenues were examined for this forecast. Conversion factors were applied to convert the vendor revenues to user expenditures. The conversion factors used for the information in this report can be found in the report *U.S. Professional Services Markets, 1993-1998.* Exhibit I-1 depicts the INPUT research methodology used in preparing the INPUT IS forecasts.

2. Quantitative Analysis

Algorithms were executed to delete the INPUT inflation factors from the original INPUT professional services market forecast and to apply the IBM inflation factors. All data was reviewed for reasonableness.

Exhibit I-1


INPUT Primary Market Research Methodology
I. Base Year
Vendor Revenue Surveys
IS Industry Research
Data Cleansing
User Expenditure Survey
Projecting Sample to Industry
8 Delivery Modes
22 Vertical & CI Markets
Aggregation of Vendor Revenues
Adjustment for Distribution Channels
User Expenditures
1990 Base Year
II. Market Forecasts
User Planning Survey
Forecasts
Industry, Economic and Technology Research
Vendor Planning Survey
Reconciliation to Prior Year
8 Delivery Modes
5-Year Forecasts
22 Vertical and Cross-Industry Markets

D
Factual Information

INPUT assembled vendor revenue information from its data bases and vendor files:

INPUT forecasts are presented in current dollars. In developing the five-year forecasts, INPUT has incorporated current economic assumptions regarding the U.S. economy as a whole. Exhibit I-2 presents the inflation assumptions from the 1993-1998 market forecast used in this report.

Exhibit I-2

Inflation Growth Rate Assumptions
(Percent)

	1993	1994	1995	1996	1997	1998	1999	2000
INPUT	3.2	3.6	2.8	2.6	2.5	2.4	2.8	2.6
IBM	2.7	2.9	2.9	2.8	2.9	2.9	2.9	2.9

E
Industry Knowledge

Knowledge of the information services industry, professional services, and individual industry sectors was added throughout the project. Tasks where this knowledge will be applied include the allocation of particular vendor revenues across sub-sectors.

II

Tables

Table A

GRAND TOTAL 1993

VENDOR	SYSTEMS OPERATIONS	PROFESSIONAL SERVICES	SYSTEMS INTEGRATION	TOTAL
TOTAL MARKET ($M)	12402	20910	4373	37685
TOTAL ACCOUNTED (%)	62%	58%	82%	62%
Electronic Data Systems	2521	761	400	3682
International Business Machines	1000	660	850	2510
Computer Sciences Corporation	711	660	310	1681
Andersen Consulting	140	550	600	1290
Digital Equipment	190	325	150	665
Systematics	535	19	0	554
Unisys	60	230	180	470
Martin Marietta Info. Systems	150	175	130	455
AT&T/NCR	60	335	50	445
Planning Research Corporation/ATI	62	265	102	429
Systems Applications Int'n'l Corp.	50	220	150	420
First Data Corp.	200	125	45	370
Boeing Computer Services	50	255	60	365
BDM International	100	197	15	312
American Management Systems	50	180	80	310
Coopers & Lybrand	5	257	30	292
Ernst & Young	6	225	50	281
Computer Task Group	17	223	16	256
Hewlett-Packard	10	245	0	255
KPMG (Peat Marwick)	10	190	5	205
Booz, Allen & Hamilton	0	200	0	200
Grumman Data Systems	10	150	40	200
Price Waterhouse	5	160	30	195
TRW, Inc.	40	140	15	195
Cap Gemini America	10	170	10	190
Keane (AGS/NYNEX)	0	180	10	190
Perot Systems	102	60	26	188
Arthur D. Little	0	187	0	187
Deloitte & Touche	0	132	40	172
First Financial Mgmt.	145	22	0	167
Analysts International	0	164	0	164
Network Systems	0	146	15	161
Securities Industry Automation	130	25	0	155
Fiserv	139	12	1	152
Policy Management Systems	36	104	12	152
Affiliated	130	20	0	150
Groupe Bull	12	130	5	147
CDC	0	145	0	145
McKinsey	0	137	0	137

Table A (Cont.)

GRAND TOTAL 1993

VENDOR	SYSTEMS OPERATIONS	PROFESSIONAL SERVICES	SYSTEMS INTEGRATION	TOTAL
Corporate Software	0	136	0	136
Mellon Bank	128	5	0	133
Systems & Computer Technology	50	74	5	129
Shared Medical Systems	80	39	5	124
Oracle Complex Systems	0	123	0	123
Computer Horizons	0	108	14	122
SHL Systemhouse	36	45	40	121
SEI Corporation	80	20	0	100
CACI, Inc.	23	67	10	100
Syscon Corporation	20	75	5	100
Bolt Beranek And Newman	2	95	0	97
RCG	0	96	0	96
Comp. Data Sys (US West)	15	80	0	95
ASK Computer Systems	0	80	15	95
Texas Instruments	4	85	5	94
Computervision	0	90	0	90
National Education Corporation	0	90	0	90
Cincinnati Bell Information Services	10	80	0	90
Covia	79	4	0	83
Computer Associates Inc.	0	80	3	83
GEIS Co	35	45	0	80
C3/Telos Corp.	10	64	1	75
Logicon	0	70	0	70
COMARCO	10	60	0	70
Newtrend Group	28	40	0	68
Harris	0	65	0	65
SUN	0	60	5	65
Continuum Company (The)	13	47	1	61
Litton Computer Services	30	30	0	60
Wang Laboratories	0	58	0	58
Genix	50	7	0	57
GTE	12	45	0	57
Trecom	0	55	0	55
Bechtel Information Technology	3	50	0	53
Compuware	0	52	0	52
Tandem Computers	0	50	0	50
BMC Software	0	48	0	48
TSC	0	30	16	46
Fujitsu	0	46	0	46
HBO & Company	28	17	0	45
Allen-Bradley	0	44	0	44
Data General	3	40	0	43

Table A (Cont.)

GRAND TOTAL 1993

VENDOR	SYSTEMS OPERATIONS	PROFESSIONAL SERVICES	SYSTEMS INTEGRATION	TOTAL
Software AG	0	43	0	43
On-Line Computer Library Center	40	2	0	42
Mircosoft	0	42	0	42
Ross	0	40	0	40
ISI	10	30	0	40
Intermetrics	0	39	0	39
Brandon Systems	0	39	0	39
Logica/Data Architects	0	39	0	39
MARCAM	0	30	8	38
Ameritech	0	36	0	36
McDermott (Power Computing & BW)	30	5	0	35
Agway	30	5	0	35
DMR	0	35	0	35
MicroFocus	0	35	0	35
SAP America	0	35	0	35
J.D.Edwards	0	33	0	33
Technicon	30	3	0	33
American Software	0	32	0	32
IMI	0	30	2	32
Sterling Software	10	20	0	30
National Computer Systems	0	30	0	30
Comtex	0	28	0	28
Sungard Data Systems	0	27	0	27
Softech, Inc.	0	25	2	27
Cycare Systems	20	7	0	27
Disclosure, Inc.	15	12	0	27
Wicat	5	20	2	27
CGI Infomatique	0	26	0	26
Warner	5	20	0	25
General Instruments	5	20	0	25
Lotus	0	25	0	25
Dun & Bradstreet	0	25	0	25
Cadence	0	25	0	25
BA (SecPac Services)	8	15	0	23
Baxter International	0	22	0	22
Automated Data Processing	15	5	0	20
Vanstar (Computerland)	0	20	0	20
RMA	0	20	0	20
Technalysis	0	20	0	20
SAS Institute	0	20	0	20
Apple Computer	0	20	0	20
Candle Corp.	0	20	0	20

Table A (Cont.)

GRAND TOTAL 1993

VENDOR	SYSTEMS OPERATIONS	PROFESSIONAL SERVICES	SYSTEMS INTEGRATION	TOTAL
XEROX Computer Services	2	15	2	19
The Registry	0	18	0	18
MCI	2	15	0	17
Dynamics Research	4	10	3	17
Legent	0	16	0	16
May & Speh	14	2	0	16
TSG	0	16	0	16
Meditech	0	15	0	15
BCG	0	15	0	15
Cognos	0	14	0	14
Global Info. Systems Technology	2	11	0	13
OCS	0	12	0	12
Triad	0	12	0	12
Effective Management	0	11	0	11
Pentamation	2	9	0	11
Bain	0	10	0	10
Shared Financial	0	10	0	10
Deere Technical Services	0	10	0	10
Comshare	0	10	0	10
ERI	0	9	0	9
CPS (CAPSO PALLM Systems)	0	9	0	9
Agfa (Compugraphic)	1	8	0	9
Dialog	0	9	0	9
Symantec	0	8	0	8
McGraw-Hill, Inc.	0	7	0	7
Total Systems Services	7	0	0	7
LUCAS (Metier Management)	0	5	0	5
Citicorp Information Resources	5	0	0	5

Table B

IBM FORECAST WITH INFLATION BY INDUSTRY MODE (BASE 1992 DOLLARS)

SEGMENTATION	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	1996 ($M)	1997 ($M)	1998 ($M)	1999 ($M)	2000 ($M)	CAGR 94-99
	1.0000	1.0270	1.0290	1.0290	1.0280	1.0290	1.0290	1.0290	1.0290	
INFLATION FACTORS	1.0000	1.0270	1.0568	1.0874	1.1179	1.1503	1.1837	1.2180	1.2533	
MANUFACTURING										
PROFESSIONAL SERVICES	4822	5169	5515	5898	6322	6798	7327	7877	8479	7%
CONSULTING	1192	1335	1493	1669	1868	2094	2350	2628	2938	12%
SOFTWARE DEVELOPMENT	2880	3010	3127	3239	3360	3491	3631	3762	3897	4%
EDUCATION/TRAINING	750	823	896	989	1094	1213	1346	1488	1644	11%
SYSTEMS OPERATIONS	711	847	1015	1226	1480	1801	2190	2663	3247	21%
PLATFORM OPERATIONS	258	298	344	400	466	546	631	733	851	16%
APPLICATIONS OPERATIONS	300	336	398	473	560	667	795	943	1119	19%
NETWORK MANAGEMENT	68	99	129	172	228	304	404	536	710	33%
DESKTOP SERVICES	85	114	143	181	226	285	360	451	567	26%
APPLICATIONS MANAGEMENT	0	0	0	0	0	0	0	0	0	
SYSTEMS INTEGRATION	420	503	594	715	862	1040	1259	1517	1826	21%
SOFTWARE DEVELOPMENT	226	271	320	386	464	560	678	817	984	21%
DESIGN/INTEGRATION	78	94	110	133	161	193	234	281	339	21%
PROJECT MGMT/CONSULTING	77	92	109	131	158	190	230	277	334	21%
EDUCATION/TRAINING	19	23	27	32	39	47	57	68	82	21%
OPERATIONS/MAINTENANCE	20	24	29	35	42	50	60	73	88	21%
TOTAL	5953	6518	7125	7839	8664	9639	10777	12056	13552	11%
PROCESS MANUFACTURING										
PROFESSIONAL SERVICES	2370	2557	2902	3329	3827	4412	5094	5862	6750	15%
CONSULTING	605	641	732	843	971	1122	1296	1492	1717	15%
SOFTWARE DEVELOPMENT	1430	1575	1815	2110	2456	2865	3345	3890	4524	16%
EDUCATION/TRAINING	335	340	355	376	400	425	453	480	510	6%
SYSTEMS OPERATIONS	748	949	1094	1279	1502	1768	2087	2459	2902	18%
PLATFORM OPERATIONS	281	309	341	382	429	483	543	609	682	12%
APPLICATIONS OPERATIONS	344	417	484	567	665	781	918	1075	1259	17%
NETWORK MANAGEMENT	48	103	130	167	214	276	355	454	582	28%
DESKTOP SERVICES	75	119	138	163	193	229	271	320	378	18%
APPLICATIONS MANAGEMENT	0	0	0	0	0	0	0	0	0	
SYSTEMS INTEGRATION	180	209	233	269	317	368	423	486	563	16%
SOFTWARE DEVELOPMENT	98	114	129	148	173	204	235	270	313	16%
DESIGN/INTEGRATION	27	31	35	41	48	55	64	73	85	16%
PROJECT MGMT/CONSULTING	32	38	42	47	57	64	72	83	95	15%
EDUCATION/TRAINING	11	13	14	17	20	23	26	30	35	17%
OPERATIONS/MAINTENANCE	12	13	14	17	20	23	26	30	35	17%
TOTAL	3298	3715	4229	4878	5647	6548	7604	8807	10215	16%

Table B (Cont.)

IBM FORECAST WITH INFLATION BY INDUSTRY MODE (BASE 1992 DOLLARS)

SEGMENTATION	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	1996 ($M)	1997 ($M)	1998 ($M)	1999 ($M)	2000 ($M)	CAGR 94-99
	1.0000	1.0270	1.0290	1.0290	1.0280	1.0290	1.0290	1.0290	1.0290	
INFLATION FACTORS	1.0000	1.0270	1.0568	1.0874	1.1179	1.1503	1.1837	1.2180	1.2533	
TRANSPORTATION										
PROFESSIONAL SERVICES	250	268	287	310	331	355	376	395	422	7%
CONSULTING	59	67	73	80	88	99	109	119	131	10%
SOFTWARE DEVELOPMENT	157	165	173	186	196	208	213	217	227	5%
EDUCATION/TRAINING	34	36	41	44	47	49	54	59	64	8%
SYSTEMS OPERATIONS	207	236	278	322	367	421	487	566	654	15%
PLATFORM OPERATIONS	103	115	130	145	162	177	195	218	241	11%
APPLICATIONS OPERATIONS	70	76	93	111	126	147	178	212	250	18%
NETWORK MANAGEMENT	14	20	25	31	39	51	63	75	94	25%
DESKTOP SERVICES	20	25	30	35	41	46	51	60	69	15%
APPLICATIONS MANAGEMENT	0	0	0	0	0	0	0	0	0	
SYSTEMS INTEGRATION	104	125	148	175	208	250	304	361	431	20%
SOFTWARE DEVELOPMENT	58	69	81	97	114	138	169	201	241	20%
DESIGN/INTEGRATION	17	21	25	30	36	42	51	60	72	19%
PROJECT MGMT/CONSULTING	21	26	31	35	42	51	61	72	85	19%
EDUCATION/TRAINING	5	6	7	8	9	11	13	16	19	18%
OPERATIONS/MAINTENANCE	3	4	5	6	8	8	10	12	14	19%
TOTAL	561	629	713	806	906	1026	1167	1322	1507	13%
UTILITIES										
PROFESSIONAL SERVICES	274	360	406	462	525	598	684	776	882	14%
CONSULTING	90	118	133	152	175	201	232	265	304	15%
SOFTWARE DEVELOPMENT	122	161	182	206	232	263	299	336	380	13%
EDUCATION/TRAINING	62	81	91	104	118	134	153	174	198	14%
SYSTEMS OPERATIONS	58	70	84	106	132	166	209	262	330	26%
PLATFORM OPERATIONS	30	34	41	49	60	75	91	111	136	22%
APPLICATIONS OPERATIONS	16	19	22	28	35	44	55	69	87	26%
NETWORK MANAGEMENT	5	8	11	15	20	26	35	47	63	34%
DESKTOP SERVICES	7	9	11	14	17	22	28	35	44	26%
APPLICATIONS MANAGEMENT	0	0	0	0	0	0	0	0	0	
SYSTEMS INTEGRATION	308	343	370	408	451	501	555	613	677	11%
SOFTWARE DEVELOPMENT	173	192	207	229	253	281	311	343	379	11%
DESIGN/INTEGRATION	44	49	53	58	64	72	80	88	97	11%
PROJECT MGMT/CONSULTING	63	71	75	83	92	103	113	125	138	11%
EDUCATION/TRAINING	18	20	21	23	26	28	31	34	38	10%
OPERATIONS/MAINTENANCE	10	12	14	15	16	18	20	22	24	10%
TOTAL	640	773	860	976	1108	1265	1448	1651	1888	14%

Table B (Cont.)

IBM FORECAST WITH INFLATION BY INDUSTRY MODE (BASE 1992 DOLLARS)

SEGMENTATION	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	1996 ($M)	1997 ($M)	1998 ($M)	1999 ($M)	2000 ($M)	CAGR 94-99
	1.0000	1.0270	1.0290	1.0290	1.0280	1.0290	1.0290	1.0290	1.0290	
INFLATION FACTORS	1.0000	1.0270	1.0568	1.0874	1.1179	1.1503	1.1837	1.2180	1.2533	
TELECOMMUNICATIONS										
PROFESSIONAL SERVICES	1200	1244	1501	1824	2222	2708	3308	4025	4898	22%
CONSULTING	252	276	336	414	510	629	777	957	1178	23%
SOFTWARE DEVELOPMENT	788	784	940	1131	1363	1645	1989	2394	2882	21%
EDUCATION/TRAINING	160	184	225	280	349	434	542	674	837	24%
SYSTEMS OPERATIONS	73	82	94	107	121	134	153	174	197	13%
PLATFORM OPERATIONS	22	24	27	29	32	34	37	40	43	8%
APPLICATIONS OPERATIONS	35	38	43	49	57	63	71	81	92	13%
NETWORK MANAGEMENT	6	10	12	15	18	21	26	31	38	21%
DESKTOP SERVICES	10	10	12	14	15	17	19	22	25	13%
APPLICATIONS MANAGEMENT	0	0	0	0	0	0	0	0	0	
SYSTEMS INTEGRATION	154	191	234	293	365	459	576	719	898	25%
SOFTWARE DEVELOPMENT	86	106	130	163	203	256	321	401	502	25%
DESIGN/INTEGRATION	24	30	38	47	58	75	94	117	147	26%
PROJECT MGMT/CONSULTING	30	37	45	57	70	89	111	139	174	25%
EDUCATION/TRAINING	6	8	10	12	15	18	23	28	34	23%
OPERATIONS/MAINTENANCE	8	10	11	14	18	22	27	33	41	25%
TOTAL	1427	1517	1830	2224	2707	3301	4037	4918	5993	22%
RETAIL DISTRIBUTION										
PROFESSIONAL SERVICES	238	256	274	295	318	344	371	396	426	8%
CONSULTING	57	66	70	76	83	91	98	106	115	9%
SOFTWARE DEVELOPMENT	146	152	164	177	191	208	224	238	256	8%
EDUCATION/TRAINING	35	38	40	42	44	46	49	52	55	6%
SYSTEMS OPERATIONS	337	430	528	654	815	1016	1270	1571	1954	24%
PLATFORM OPERATIONS	113	194	237	292	357	438	520	632	767	22%
APPLICATIONS OPERATIONS	160	132	164	205	261	325	400	485	602	24%
NETWORK MANAGEMENT	33	44	54	68	85	107	139	177	224	27%
DESKTOP SERVICES	31	60	72	89	112	145	211	276	361	31%
APPLICATIONS MANAGEMENT	0	0	0	0	0	0	0	0	0	
SYSTEMS INTEGRATION	155	125	148	179	216	262	319	393	477	22%
SOFTWARE DEVELOPMENT	80	65	76	91	110	133	162	200	243	21%
DESIGN/INTEGRATION	31	25	30	36	43	52	63	77	93	21%
PROJECT MGMT/CONSULTING	30	24	29	35	42	51	62	76	92	22%
EDUCATION/TRAINING	7	6	7	9	11	13	16	20	25	24%
OPERATIONS/MAINTENANCE	7	6	7	9	11	13	16	20	25	24%
TOTAL	730	811	950	1128	1349	1622	1960	2360	2858	20%

Table B (Cont.)

IBM FORECAST WITH INFLATION BY INDUSTRY MODE (BASE 1992 DOLLARS)

SEGMENTATION	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	1996 ($M)	1997 ($M)	1998 ($M)	1999 ($M)	2000 ($M)	CAGR 94-99
INFLATION FACTORS	1.0000	1.0270	1.0290	1.0290	1.0280	1.0290	1.0290	1.0290	1.0290	
	1.0000	1.0270	1.0568	1.0874	1.1179	1.1503	1.1837	1.2180	1.2533	
WHOLESALE DISTRIBUTION										
PROFESSIONAL SERVICES	378	408	434	466	501	538	578	617	661	7%
CONSULTING	85	90	99	109	120	132	145	157	172	10%
SOFTWARE DEVELOPMENT	237	259	272	291	310	332	355	377	402	7%
EDUCATION/TRAINING	56	60	63	66	70	74	78	82	86	5%
SYSTEMS OPERATIONS	213	246	279	320	368	423	486	557	639	15%
PLATFORM OPERATIONS	96	109	123	140	159	179	203	228	258	13%
APPLICATIONS OPERATIONS	72	78	87	97	111	127	144	166	189	14%
NETWORK MANAGEMENT	20	25	30	35	41	48	56	64	75	17%
DESKTOP SERVICES	25	34	40	48	57	69	83	98	117	20%
APPLICATIONS MANAGEMENT	0	0	0	0	0	0	0	0	0	
SYSTEMS INTEGRATION	106	121	141	163	190	220	255	299	347	16%
SOFTWARE DEVELOPMENT	57	67	78	89	103	119	138	161	186	16%
DESIGN/INTEGRATION	20	23	27	30	36	40	46	53	61	15%
PROJECT MGMT/CONSULTING	19	22	25	31	36	41	47	55	65	17%
EDUCATION/TRAINING	5	5	6	7	8	10	12	15	18	20%
OPERATIONS/MAINTENANCE	5	5	6	7	8	10	12	15	18	20%
TOTAL	697	775	854	949	1059	1181	1319	1473	1647	12%
BANKING AND FINANCE										
PROFESSIONAL SERVICES	2379	2575	2852	3102	3364	3666	3992	4337	4712	9%
CONSULTING	585	685	766	851	932	1035	1145	1261	1391	10%
SOFTWARE DEVELOPMENT	1468	1518	1670	1796	1933	2084	2245	2417	2599	8%
EDUCATION/TRAINING	326	373	415	455	499	547	602	659	721	10%
SYSTEMS OPERATIONS	2571	2824	3201	3699	4310	5071	5997	7132	8393	17%
PLATFORM OPERATIONS	841	719	795	886	989	1107	1239	1381	1541	12%
APPLICATIONS OPERATIONS	1220	1439	1621	1872	2174	2540	2980	3523	4108	17%
NETWORK MANAGEMENT	275	316	386	480	601	756	958	1217	1529	26%
DESKTOP SERVICES	235	350	398	462	546	669	820	1011	1216	20%
APPLICATIONS MANAGEMENT	0	0	0	0	0	0	0	0	0	
SYSTEMS INTEGRATION	287	333	378	443	541	675	828	1024	1248	22%
SOFTWARE DEVELOPMENT	143	166	187	220	268	335	411	509	620	22%
DESIGN/INTEGRATION	57	67	75	88	108	134	165	204	249	22%
PROJECT MGMT/CONSULTING	57	67	74	88	108	133	164	203	248	22%
EDUCATION/TRAINING	15	17	21	24	29	36	44	54	65	21%
OPERATIONS/MAINTENANCE	15	17	21	24	29	36	44	54	65	21%
TOTAL	5237	5733	6430	7244	8215	9413	10818	12494	14353	14%

Table B (Cont.)

IBM FORECAST WITH INFLATION BY INDUSTRY MODE (BASE 1992 DOLLARS)

SEGMENTATION	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	1996 ($M)	1997 ($M)	1998 ($M)	1999 ($M)	2000 ($M)	CAGR 94-99
INFLATION FACTORS	1.0000 1.0000	1.0270 1.0270	1.0290 1.0568	1.0290 1.0874	1.0280 1.1179	1.0290 1.1503	1.0290 1.1837	1.0290 1.2180	1.0290 1.2533	
INSURANCE										
PROFESSIONAL SERVICES	1569	1592	1680	1812	1954	2115	2291	2473	2670	8%
CONSULTING	384	401	440	486	537	595	660	729	805	11%
SOFTWARE DEVELOPMENT	970	960	988	1048	1110	1180	1256	1330	1410	6%
EDUCATION/TRAINING	215	231	252	278	306	339	375	413	456	10%
SYSTEMS OPERATIONS	1213	1420	1581	1852	2172	2557	3011	3537	4157	17%
PLATFORM OPERATIONS	498	571	620	715	826	956	1108	1278	1475	16%
APPLICATIONS OPERATIONS	465	519	586	679	787	916	1064	1233	1429	16%
NETWORK MANAGEMENT	110	151	178	222	277	346	433	540	673	25%
DESKTOP SERVICES	140	178	198	236	283	338	406	485	580	20%
APPLICATIONS MANAGEMENT	0	0	0	0	0	0	0	0	0	
SYSTEMS INTEGRATION	162	178	206	241	285	336	398	469	553	18%
SOFTWARE DEVELOPMENT	85	95	107	127	149	176	208	245	289	18%
DESIGN/INTEGRATION	32	34	40	46	55	65	76	90	106	18%
PROJECT MGMT/CONSULTING	27	30	36	42	48	57	68	80	94	18%
EDUCATION/TRAINING	9	10	12	14	17	20	24	28	33	19%
OPERATIONS/MAINTENANCE	9	10	12	14	17	19	22	26	30	17%
TOTAL	2944	3190	3467	3905	4410	5008	5700	6479	7380	13%
MEDICAL										
PROFESSIONAL SERVICES	291	317	346	375	408	452	507	573	633	11%
CONSULTING	70	78	86	95	106	118	133	157	177	13%
SOFTWARE DEVELOPMENT	181	195	211	226	242	267	300	331	362	9%
EDUCATION/TRAINING	40	45	49	54	60	67	74	84	93	11%
SYSTEMS OPERATIONS	1126	1252	1400	1568	1768	2031	2339	2684	3085	14%
PLATFORM OPERATIONS	453	495	532	569	608	659	719	775	834	8%
APPLICATIONS OPERATIONS	440	460	502	555	617	699	775	879	981	12%
NETWORK MANAGEMENT	103	141	185	241	306	395	511	606	767	27%
DESKTOP SERVICES	130	156	181	203	237	279	334	424	503	19%
APPLICATIONS MANAGEMENT	0	0	0	0	0	0	0	0	0	
SYSTEMS INTEGRATION	140	174	201	242	286	342	416	521	629	21%
SOFTWARE DEVELOPMENT	78	96	111	134	159	189	231	287	347	21%
DESIGN/INTEGRATION	22	28	32	39	46	55	67	85	104	22%
PROJECT MGMT/CONSULTING	24	31	35	43	51	61	74	92	112	22%
EDUCATION/TRAINING	8	10	12	14	16	19	22	28	33	19%
OPERATIONS/MAINTENANCE	8	10	12	14	16	19	22	28	33	19%
TOTAL	1557	1744	1946	2186	2462	2825	3262	3777	4346	14%

Table B (Cont.)

IBM FORECAST WITH INFLATION BY INDUSTRY MODE (BASE 1992 DOLLARS)

SEGMENTATION	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	1996 ($M)	1997 ($M)	1998 ($M)	1999 ($M)	2000 ($M)	CAGR 94-99
	1.0000	1.0270	1.0290	1.0290	1.0280	1.0290	1.0290	1.0290	1.0290	
INFLATION FACTORS	1.0000	1.0270	1.0568	1.0874	1.1179	1.1503	1.1837	1.2180	1.2533	
EDUCATION										
PROFESSIONAL SERVICES	90	98	109	120	133	145	161	178	197	10%
CONSULTING	23	26	30	33	39	42	48	55	62	13%
SOFTWARE DEVELOPMENT	54	57	62	68	73	81	88	96	105	9%
EDUCATION/TRAINING	13	15	17	19	21	23	25	27	30	10%
SYSTEMS OPERATIONS	245	280	322	375	437	522	619	731	860	18%
PLATFORM OPERATIONS	172	193	220	252	287	344	408	483	565	17%
APPLICATIONS OPERATIONS	65	76	89	108	133	158	187	220	264	20%
NETWORK MANAGEMENT	5	7	8	9	11	13	16	18	21	18%
DESKTOP SERVICES	3	4	5	6	6	7	8	9	10	13%
APPLICATIONS MANAGEMENT	0	0	0	0	0	0	0	0	0	
SYSTEMS INTEGRATION	59	68	77	92	110	128	149	171	200	17%
SOFTWARE DEVELOPMENT	33	37	42	51	59	70	81	93	109	18%
DESIGN/INTEGRATION	10	12	14	16	20	23	26	30	35	17%
PROJECT MGMT/CONSULTING	11	12	14	16	20	23	26	30	35	17%
EDUCATION/TRAINING	2	3	3	4	4	5	6	7	8	19%
OPERATIONS/MAINTENANCE	3	4	5	5	7	8	10	11	13	17%
TOTAL	394	445	508	587	680	796	929	1080	1257	16%
BUSINESS SERVICES										
PROFESSIONAL SERVICES	326	350	375	406	436	467	499	528	565	7%
CONSULTING	85	96	104	119	132	146	159	171	189	11%
SOFTWARE DEVELOPMENT	195	206	218	231	243	253	266	273	285	5%
EDUCATION/TRAINING	46	49	52	56	61	68	74	83	91	10%
SYSTEMS OPERATIONS	183	220	264	324	385	461	542	627	746	19%
PLATFORM OPERATIONS	51	58	63	76	82	97	110	119	135	13%
APPLICATIONS OPERATIONS	95	110	133	164	193	229	269	316	375	19%
NETWORK MANAGEMENT	20	26	33	37	49	57	71	82	99	20%
DESKTOP SERVICES	17	26	35	47	60	79	92	109	137	26%
APPLICATIONS MANAGEMENT	0	0	0	0	0	0	0	0	0	
SYSTEMS INTEGRATION	107	133	168	205	251	310	383	453	552	22%
SOFTWARE DEVELOPMENT	49	61	77	94	114	141	175	207	252	22%
DESIGN/INTEGRATION	23	29	36	45	54	68	83	98	120	22%
PROJECT MGMT/CONSULTING	23	29	36	45	54	68	83	98	120	22%
EDUCATION/TRAINING	6	8	10	11	15	17	21	25	30	20%
OPERATIONS/MAINTENANCE	6	7	10	11	15	17	21	25	30	20%
TOTAL	616	704	807	934	1072	1238	1424	1608	1863	15%

Table B (Cont.)

IBM FORECAST WITH INFLATION BY INDUSTRY MODE (BASE 1992 DOLLARS)

SEGMENTATION	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	1996 ($M)	1997 ($M)	1998 ($M)	1999 ($M)	2000 ($M)	CAGR 94-99
	1.0000	1.0270	1.0290	1.0290	1.0280	1.0290	1.0290	1.0290	1.0290	
INFLATION FACTORS	1.0000	1.0270	1.0568	1.0874	1.1179	1.1503	1.1837	1.2180	1.2533	
FEDERAL GOVERNMENT										
PROFESSIONAL SERVICES	2128	2587	2640	2903	3206	3481	3799	4133	4515	9%
CONSULTING	420	514	524	576	635	691	754	820	895	9%
SOFTWARE DEVELOPMENT	1364	1620	1700	1873	2084	2268	2484	2719	2982	10%
EDUCATION/TRAINING	344	453	416	454	487	522	561	595	638	7%
SYSTEMS OPERATIONS	1760	1476	1568	1652	1686	1739	1812	1898	1969	4%
PLATFORM OPERATIONS	546	443	470	496	506	521	544	570	591	4%
APPLICATIONS OPERATIONS	820	709	701	727	738	747	779	816	840	3%
NETWORK MANAGEMENT	131	147	239	264	275	296	308	322	342	6%
DESKTOP SERVICES	263	177	157	165	169	174	181	190	197	4%
APPLICATIONS MANAGEMENT	0	0	0	0	0	0	0	0	0	
SYSTEMS INTEGRATION	1701	1290	1348	1484	1631	1760	1909	2068	2249	9%
SOFTWARE DEVELOPMENT	913	693	725	797	876	945	1025	1111	1208	9%
DESIGN/INTEGRATION	262	199	208	230	252	272	295	319	348	9%
PROJECT MGMT/CONSULTING	384	291	303	334	368	397	430	465	506	9%
EDUCATION/TRAINING	86	66	68	74	82	89	96	104	113	9%
OPERATIONS/MAINTENANCE	56	42	44	48	53	58	63	68	74	9%
TOTAL	5589	5353	5556	6039	6523	6980	7520	8099	8733	8%
STATE & LOCAL GOVERNMENT										
PROFESSIONAL SERVICES	2840	2886	3197	3567	3984	4459	4996	5578	6227	12%
CONSULTING	710	740	825	937	1064	1210	1379	1565	1775	14%
SOFTWARE DEVELOPMENT	1728	1746	1924	2137	2376	2647	2951	3278	3641	11%
EDUCATION/TRAINING	402	400	447	493	544	602	666	735	810	10%
SYSTEMS OPERATIONS	1770	1988	2264	2696	3219	3857	4636	5556	6670	20%
PLATFORM OPERATIONS	410	456	482	542	611	690	779	876	985	13%
APPLICATIONS OPERATIONS	975	1050	1201	1427	1697	2022	2413	2867	3407	19%
NETWORK MANAGEMENT	210	259	307	374	455	555	678	825	1003	22%
DESKTOP SERVICES	175	224	274	353	456	590	766	988	1275	29%
APPLICATIONS MANAGEMENT	0	0	0	0	0	0	0	0	0	
SYSTEMS INTEGRATION	485	553	649	746	853	980	1126	1291	1479	15%
SOFTWARE DEVELOPMENT	261	297	349	401	458	526	605	693	793	15%
DESIGN/INTEGRATION	75	86	100	115	132	151	174	199	228	15%
PROJECT MGMT/CONSULTING	109	124	147	168	192	221	254	291	333	15%
EDUCATION/TRAINING	24	29	33	38	43	50	56	65	75	15%
OPERATIONS/MAINTENANCE	16	18	21	25	28	32	37	43	50	16%
TOTAL	5095	5428	6110	7009	8055	9297	10759	12425	14377	15%

Table B (Cont.)

IBM FORECAST WITH INFLATION BY INDUSTRY MODE (BASE 1992 DOLLARS)

SEGMENTATION	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	1996 ($M)	1997 ($M)	1998 ($M)	1999 ($M)	2000 ($M)	CAGR 94-99
	1.0000	1.0270	1.0290	1.0290	1.0280	1.0290	1.0290	1.0290	1.0290	
INFLATION FACTORS	1.0000	1.0270	1.0568	1.0874	1.1179	1.1503	1.1837	1.2180	1.2533	
MISCELLANEOUS INDUSTRIES										
PROFESSIONAL SERVICES	132	141	152	166	181	199	216	233	254	9%
CONSULTING	32	35	39	43	49	54	61	66	73	11%
SOFTWARE DEVELOPMENT	80	86	91	99	106	116	125	133	143	8%
EDUCATION/TRAINING	20	21	23	25	27	29	30	34	37	8%
SYSTEMS OPERATIONS	20	23	26	30	35	40	47	54	63	16%
PLATFORM OPERATIONS	7	8	8	9	10	11	12	13	14	10%
APPLICATIONS OPERATIONS	9	10	12	13	15	17	19	22	25	13%
NETWORK MANAGEMENT	2	2	3	4	5	6	9	11	14	30%
DESKTOP SERVICES	2	3	3	4	5	6	7	8	10	22%
APPLICATIONS MANAGEMENT	0	0	0	0	0	0	0	0	0	
SYSTEMS INTEGRATION	4	4	4	6	7	8	9	9	11	18%
SOFTWARE DEVELOPMENT	2	2	2	3	4	5	6	6	7	25%
DESIGN/INTEGRATION	1	1	1	1	1	1	1	1	1	0%
PROJECT MGMT/CONSULTING	1	1	1	2	2	2	2	2	2	15%
EDUCATION/TRAINING	0	0	0	0	0	0	0	0	0	
OPERATIONS/MAINTENANCE	0	0	0	0	0	0	0	0	0	
TOTAL	156	168	182	202	223	247	272	296	328	10%

Table B (Cont.)

IBM FORECAST WITH INFLATION BY INDUSTRY MODE (BASE 1992 DOLLARS)

SEGMENTATION	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	1996 ($M)	1997 ($M)	1998 ($M)	1999 ($M)	2000 ($M)	CAGR 94-99
	1.0000	1.0270	1.0290	1.0290	1.0280	1.0290	1.0290	1.0290	1.0290	
INFLATION FACTORS	1.0000	1.0270	1.0568	1.0874	1.1179	1.1503	1.1837	1.2180	1.2533	
GRAND TOTAL										
PROFESSIONAL SERVICES	19287	20809	22670	25034	27712	30738	34201	37981	42289	11%
CONSULTING	4649	5167	5750	6482	7309	8258	9346	10548	11923	13%
SOFTWARE DEVELOPMENT	11800	12494	13539	14817	16277	17908	19772	21794	24096	10%
EDUCATION/TRAINING	2838	3148	3381	3735	4127	4572	5082	5639	6270	11%
SYSTEMS OPERATIONS	11235	12342	13997	16209	18795	22009	25886	30468	35867	17%
PLATFORM OPERATIONS	3881	4025	4433	4982	5583	6316	7139	8066	9119	13%
APPLICATIONS OPERATIONS	5086	5468	6137	7074	8167	9482	11048	12908	15025	16%
NETWORK MANAGEMENT	1050	1358	1731	2133	2622	3256	4062	5005	6232	24%
DESKTOP SERVICES	1218	1490	1696	2020	2423	2954	3637	4489	5490	21%
APPLICATIONS MANAGEMENT						-				-
SYSTEMS INTEGRATION (COMM)	2671	3062	3551	4178	4943	5880	7000	8328	9893	19%
SOFTWARE DEVELOPMENT	1429	1636	1896	2232	2631	3135	3731	4435	5266	19%
DESIGN/INTEGRATION	461	527	613	721	859	1024	1224	1457	1736	19%
PROJECT MGMT/CONSULTING	524	602	697	820	970	1151	1367	1625	1928	18%
EDUCATION/TRAINING	135	157	181	211	250	296	351	418	495	18%
OPERATIONS/MAINTENANCE	122	139	165	194	233	274	327	392	467	19%
SYSTEMS INTEGRATION (FED)	1701	1290	1348	1484	1631	1760	1909	2068	2249	9%
SOFTWARE DEVELOPMENT	913	693	725	797	876	945	1025	1111	1208	9%
DESIGN/INTEGRATION	262	199	208	230	252	272	295	319	348	9%
PROJECT MGMT/CONSULTING	384	291	303	334	368	397	430	465	506	9%
EDUCATION/TRAINING	86	66	68	74	82	89	96	104	113	9%
OPERATIONS/MAINTENANCE	56	42	44	48	53	58	63	68	74	9%
TOTAL	34894	37502	41566	46905	53081	60387	68996	78844	90298	14%

	DISCRETE	PROCESS	TRANS	UTILITIES	TELECOMM	WHOLESALE	RETAIL	B & F	INSUR.	HEALTH	EDUCAT.	BUS.SVCS	FEDERAL	S & L	MISC	TOTAL
ADOBE	50240	8900	6500	3600	5700	8100	4900	37500	12010	16000	11300	11000	6500	3200	3450	188900
ADP	299000	67925	27050	25250	19687	239611	120330	843950	137750	75492	13209	222920	42316	3010	2500	2140000
AGS/NYNEX - SEE KEANE INC.																
ALDUS	21450	6950	4350	1980	5050	2720	2850	19840	6980	6550	4800	8450	8250	4130	2650	107000
AMERICAN MANAGEMENT SYS																
	21310	22050	10700	2370	25800	510	3410	59500	1130	3300	33000	1550	74200	49520	650	309000
AMERICAN SOFTWARE	29100	23500	3250	6450		6520	2640	4910		5630						82000
ANALYSTS INTERNATIONAL CORP.																
	76500	40100		2000	13500		5500	12500	10500		2000	2200		1600	600	167000
ANDERSEN CONSULTING	229300	192500	31000	70500	88300	27800	181600	199000	127300	69000	13600	28500	67000	76100	9500	1411000
ASK COMPUTER SYSTEMS	43140	28500	12500	15000	5500	7100	6350	13700	1900	4750	1810	38600	7050	12800	1300	200000
AUTO DESK	35500	11300	6200	3300	6350	8500	4450	33500	13000	14600	11600	13500	7500	3500	3200	176000
BMC SOFTWARE	31800	9500	5000	3020	6720	6640	3980	28010	12500	14320	9700	14200	7600	3220	2790	159000
BOEING	5800	3700			6500			5200	8100		6200		417000	52500		505000
BOOLE & BABBAGE	9200	3000	1500	900	1600	2300	1200	8960	4890	3100	2000	4100	2350	1100	800	47000
BORLAND	45800	16000	7500	4690	7800	14500	7600	44800	16000	17000	12010	15000	11450	4550	4300	229000
CADENCE DESIGN SYSTEMS																
	165000			20000												185000
COGNOS INC	7700	2700	1300	1200	4600	2500	1280	6550	2670	4600	2600	28000		3000	1300	70000
COMPUTER ASSOC. INT.	176200	58000	25500	33500	45000	57000	39000	222000	89000	70300	57000	39500	71000	35000	9000	1027000
COMPUTER DATA SYSTEMS																
	3650	850	200	110	9180	180	120	1800	400	310	8250	1200	92000	23500	250	142000
COMPUTER HORIZONS	42000	20050	4050	150	23100	11000	1000	12100	200	100		8050		200		122000
COMPUTER LANGUAGE RES																
	22600	3850	4000	2600	2650	6500	4400	21500	8200	11000	7800	6000	6800	1950	1150	111000
COMPUTER SCIENCES	207300	154500	15170	28350	82800	60500	44900	132100	135200	97300	57500	53100	1013580	122700	16000	2221000
COMPUTER TASK GROUP	128500	42600		2250	33000	8300	500	9700	13200	2750	8100	5500		9000	1600	265000
COMSHARE	6000	6400	1350	600	1900	550	1200	6300	1400	1000	1200	2800	600	1000	400	32700
CYCARE SYSTEMS								4500		66500						71000

Table C (Cont.)

1993 IS REVENUES

	DISCRETE	PROCESS	TRANS	UTILITIES	TELECOMM	WHOLESALE	RETAIL	B & F	INSUR.	HEALTH	EDUCAT.	BUS.SVCS	FEDERAL	S & L	MISC	TOTAL
D&B SOFTWARE	101000	45200	14500	6400	12300	9500	12000	61000	9300	15000	2600	4200	15000	12500	2500	323000
EDS	299450	315280	30300	34000	99000	73500	167000	423000	622000	165300	64800	40500	954170	700700	16000	4005000
FISERV								455000								455000
GOAL SYSTEMS (SEE LEGENT)																
HBO										232000						232000
INFORMIX	25200	6300	4750	3300	3400	7400	3000	34000	12650	11300	9500	7000	6300	3800	1100	139000
INTERLEAF INC	18200	5460	3750	1430	3300	3420	2275	13500	6740	8100	5500	7950	5055	2800	1520	89000
INTERMETRICS	11700	5900	1400	500	600	130	170	2150	1700	700		900	10050	1100	300	37300
INTERSOLV	18655	6450	2160	260	1470	6500	8100	17645	3200	455		3720	2925	3980	480	76000
KEANE INC.	85000	13000	500	5700	5300	200	170	17200	16500	30800	230	840	160	300	100	176000
KNOWLEDGEWARE	16200	3350	3100	2600	3900	5000	2800	23230	6700	8500	4800	4400	4500	3500	420	93000
LEGENT	46100	12000	8600	6400	7100	13500	9000	65000	21700	22000	14500	15000	11600	4500	4000	261000
LOCKHEED	42200	4300	16900	2000	1600	4500	2800	23000	6800	7000	5600	4000	56500	82000	800	260000
LOGICON	3000												137000			140000
LOTUS	98000	29400	17150	9310	17640	23700	12250	86300	36550	44000	29000	43100	24500	9800	9300	490000
MARTIN MARIETTA	3000												437000	15000		455000
MENTOR GRAPHICS CORP.	143200			1500	24000							800			500	170000
MICROSOFT	369000	110500	64700	35131	66560	89500	46300	323000	136820	166400	112800	162700	92589	37000	36000	1849000
NATIONAL DATA					7700		70300	79500		20500			9300	9700		197000
NETG (NATIONAL EDUC. CORP.)	6200	12000	2500	850	11000	1200	600	13550	9500	7000	300	2500	100	2200	500	70000
NOVELL	115000	19400	20300	14200	16600	35000	22500	165000	64000	58000	36000	31000	34000	23000	6000	660000
ON-LINE SOFTWARE (SEE COMPUTER ASSOC.)																
ORACLE	82400	16200	11400	8700	17000	21800	14600	121300	41000	39000	23000	24000	106000	24000	2600	553000
PANSOPHIC (SEE COMPUTER ASSOC.)																
POLICY MANAGEMENT SYS									400000							400000
SHARED MEDICAL										389000						389000
SHL SYSTEMHOUSE	3700	6300			19000	4200	15000				1800	7000	28000	36000		121000

Table C (Cont.)

1993 IS REVENUES

	DISCRETE	PROCESS	TRANS	UTILITIES	TELECOMM	WHOLESALE	RETAIL	B & F	INSUR.	HEALTH	EDUCAT.	BUS.SVCS	FEDERAL	S & L	MISC	TOTAL
SOFTWARE PUB.	12600	3800	3000	1800	3000	3500	1600	11000	5800	4600	4000	3200	3000	1600	400	62900
STERLING SOFTWARE	37100	6600	7000	4500	6100	11500	25100	59000	16500	17600	14000	13500	72800	7300	2400	301000
SUNGUARD	26800	1500	900		1420	520	680	283500	18280			400				334000
SYBASE INC	35200	13100	4900	3300	13800	5200	3700	37800	5400	4800	3700	7800	22600	9500	3200	174000
SYMANTEC CORP	25900	12170	7000	3130	8700	4700	4800	25800	9800	9900	3400	8000	20500	13100	2100	159000
SYSTEM CENTER (SEE STERLING SOFTWARE)																
SYSTEM SOFTWARE ASSOC. INC.	58400	14200				14400										87000
SYSTEMATICS								637000								637000
VALID LOGIC SYSTEMS INC. (SEE CADENCE)																

DISCRETE	3340295
PROCESS	1385285
TRANS	391930
UTILITIES	372831
TELECOMM	745227
WHOLESALE	809701
RETAIL	861955
B & F	4705395
INSUR.	2053270
HEALTH	1745557
EDUCAT.	599209
BUS.SVCS	896680
FEDERAL	3888845
S & L	1414960
MISC	151660
TOTAL	23362800

Table D

IBM FORECAST
SYSTEMS OPERATION SEGMENTS

SEGMENTATION	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	1996 ($M)	1997 ($M)	1998 ($M)	1999 ($M)	2000 ($M)	'94-'99 CAGR
HARDWARE	2809	3090	3450	3925	4487	5196	6067	7119	8387	16%
NEW	535	600	746	941	1190	1519	1946	2498	3205	27%
PREVIOUSLY PURCHASED	2274	2490	2705	2984	3297	3677	4121	4621	5182	11%
SOFTWARE	2245	2526	2867	3319	3825	4449	5210	6105	7156	16%
MAINTENANCE	786	850	940	1056	1188	1349	1539	1757	2006	13%
PERSONNEL	4495	4884	5545	6448	7509	8807	10329	12079	14084	17%
NETWORK COSTS	900	992	1194	1460	1787	2208	2742	3408	4235	23%
TOTAL	11235	12342	13997	16209	18795	22009	25886	30468	35867	17%

Table E

Industry Sector Definitions

Industry Sector	SIC Code	Description
Discrete Manufacturing	23xx	Apparel and other finished products
	25xx	Furniture and fixtures
	27xx	Printing, publishing and allied industries
	31xx	Leather and leather products
	34xx	Fabricated metal products, except machinery and transportation equipment
	35xx	Industrial and commercial machinery and computer equipment
	36xx	Electronic and other electrical equipment and components, except computer equipment
	37xx	Transportation equipment
	38xx	Instruments; photo/med/optical goods; watches/clocks
	39xx	Miscellaneous manufacturing industry
Process Manufacturing	10xx	Metal mining
	12xx	Coal mining
	13xx	Oil and gas extraction
	14xx	Mining/quarrying nonmetalic minerals
	20xx	Food and kindred products
	21xx	Tobacco products
	22xx	Textile mill products
	24xx	Lumber and wood products, except furniture
	26xx	Paper and allied products
	28xx	Chemicals and allied products
	29xx	Petroleum refining and related industries
	30xx	Rubber and miscellaneous plastic products
	32xx	Stone, clay, glass and concrete products
	33xx	Primary metal industries
Transportation Services	40xx	Railroad transport
	41xx	Public transit/transport
	42xx	Motor freight transport/warehousing
	43xx	U.S. Postal Service
	44xx	Water transportation
	45xx	Air transportation (including airline reservation services in 4512)
	46xx	Pipelines, except natural gas
	47xx	Transportation services (including 472x, arrangement of passenger transportation)

Table E (Cont.)

Industry Sector Definitions

Industry Sector	SIC Code	Description
Telecommunications	48xx	Communications
Utilities	49xx	Electric, gas and sanitary services
Retail Distribution	52xx	Building materials
	53xx	General merchandise stores
	54xx	Food stores
	55xx	Automotive dealers, gas stations
	56xx	Apparel and accessory stores
	57xx	Home furniture, furnishings and accessory stores
	58xx	Eating and drinking places
	59xx	Miscellaneous retail
Wholesale Distribution	50xx	Wholesale trade - durable goods
	51xx	Wholesale trade - nondurable goods
Banking and Finance	60xx	Depository institutions
	61xx	Nondepository credit institutions
	62xx	Security and commodity brokers, dealers, exchanges and services
	67xx	Holding and other investment offices
Insurance	63xx	Insurance carriers
	64xx	Insurance agents, brokers and services
Health Services	80xx	Health services
Education	82xx	Educational services

Table E

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Industry Sector	SIC Code	Description
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	37xx	Transportation equipment
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	14xx	Mining/quarrying nonmetalic minerals
	20xx	Food and kindred products
	21xx	Tobacco products
	22xx	Textile mill products
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	28xx	Chemicals and allied products
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	30xx	Rubber and miscellaneous plastic products
	32xx	Stone, clay, glass and concrete products
	33xx	Primary metal industries
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	42xx	Motor freight transport/warehousing
	43xx	U.S. Postal Service
	44xx	Water transportation
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Table E (Cont.)

Industry Sector Definitions

Industry Sector	SIC Code	Description
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	58xx	Eating and drinking places
	59xx	Miscellaneous retail
Wholesale Distribution	50xx	Wholesale trade - durable goods
	51xx	Wholesale trade - nondurable goods
Banking and Finance	60xx	Depository institutions
	61xx	Nondepository credit institutions
	62xx	Security and commodity brokers, dealers, exchanges and services
	67xx	Holding and other investment offices
Insurance	63xx	Insurance carriers
	64xx	Insurance agents, brokers and services
Health Services	80xx	Health services
Education	82xx	Educational services

Table E (Cont.)

Industry Sector Definitions

Industry Sector	SIC Code	Description
Business Services	65xx	Real estate
	70xx	Hotels, rooming houses, camps, and other lodging places
	72xx	Personal services
	73xx	Business services (except hotel reservation services in 7389)
	7389x	Hotel reservation services
	75xx	Automotive repair, services and parking
	76xx	Miscellaneous repair services
	78xx	Motion pictures
	79xx	Amusement and recreation services
	81xx	Legal services
	83xx	Social services
	84xx	Museums, art galleries, and botanical/zoological gardens
	86xx	Membership organizations
	87xx	Engineering, accounting, research, management, and related services
	89xx	Miscellaneous services
Federal Government	9xxx	
State and Local Government	9xxx	
Miscellaneous Industries	01xx	Agricultural production - crops
	02xx	Agricultural production - livestock/animals
	07xx	Agricultural services
	08xx	Forestry
	09xx	Fishing, hunting and trapping
	15xx	Building construction - general contractors, operative builders
	16xx	Heavy construction - contractors
	17xx	Construction - special trade contractors

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